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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/792,223

03/03/2004

Jiangang Ding

EX-04-01

4776

Ji Zhang  
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7590

12/19/2006

EXAMINER

EDWARDS, ANTHONY Q

ART UNIT

PAPER NUMBER

2835

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/19/2006

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/792,223

Applicant(s)

DING ET AL.

Examiner

Anthony Q. Edwards

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "data transmission lines" of claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. US2002/0196601 to Lee et al. ("Lee" hereinafter) in view of U.S. Patent No. 6,778,387 to Fairchild. Referring to claim 21, Lee discloses a network server (200) for supplying data to a client over a network, comprising a digital signal processing unit 206) a data storage unit 202), said data storage unit including a plurality of storage devices (see Figs. 1, 2 and 7). Lee also inherently teaches providing a plurality of data transmission lines coupled to said plural sets of storage devices and to said digital signal processing unit, and a network interface (210) coupled to said digital signal processing unit, said network interface relaying a signal transmission between said digital signal processing unit and the network. See paragraphs 0042-0045. Lee does not disclose providing a plurality of trays, wherein each of the plural sets of storage devices includes a plurality of storage devices mounted in a corresponding tray of said plurality of trays and forming an air channel with said corresponding tray.

Fairchild teaches providing a thermal cooling system for storage device (see Figs. 2 and 3), wherein the storage devices are located in corresponding plurality of

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trays (22), the plurality of trays forming an air channel (24) with each corresponding tray. See col. 4, lines 25-44.

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the network server of Lee with removable trays having cooling channels therein, as taught by Fairchild, since the device of Fairchild would allow for (1) remove of the plural sets of storage devices of Lee, without having to remove the complete storage unit, and (2) cooling of the storages devices of Lee within each removable tray.

Referring to claim 22, Lee in view of Fairchild disclose a network server, wherein said data storage unit further including a board having a plurality of slots (702) substantially parallel to each other, wherein said plurality of trays are removably mounted in the plurality of slots in said board. See Fig. 7 of Lee.

Referring to claim 23, Lee in view of Fairchild disclose a network server as substantially claimed, since Lee shows four slots (see Fig. 7), and it would been obvious to include a removable tray for each slot.

Referring to claim 24, Lee in view of Fairchild disclose a network server, including an airflow generator (20) mounted on said board, said airflow generator generating an airflow in the air channel in each of said plurality of trays in the plurality of slots in said board. See col. 4, lines 25-32 of Fairchild.

Referring to claim 25, Lee in view of Fairchild disclose a network server, said data storage unit further including a power supply circuit (coupled to said plural sets of

storage devices and mounted on said board, wherein said airflow generator further generating airflow through said power supply circuit. See Fig. 7 of Lee.

Referring to claims 26 and 27, Lee in view of Fairchild disclose a network server, wherein the trays are stacked and the provided in a rack, respectively. See Figs. 6A-6C and paragraph 0054 of Lee.

Referring to claim 28, Lee in view of Fairchild disclose a network server as substantially claimed, except for each of the plural sets of storage devices having four hard disk drives, instead of three as claimed. It would have been obvious at the time of the invention to further modify the data storage unit of Lee to include three hard disk drives, instead of four, based on the users specific needs.

Referring to claims 29 and 30, Lee in view of Fairchild disclose a network server as claimed, including simultaneously accessing multiple storage devices and supplying digital video program data to a plurality of clients in a network, respectively. See paragraphs 0043 and 0048 of Lee.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Q. Edwards whose telephone number is 571-272-2042. The examiner can normally be reached on M-F (7:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800, ext. 35. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 11, 2006

aqe

A handwritten signature in black ink, appearing to read 'A. Vortman', with a horizontal line extending from the end of the signature towards the right.

**ANATOLY VORTMAN  
PRIMARY EXAMINER**